CHAPTER 5
Transportation

TRANSPORTATION

The recommendations contained within this chapter provide a framework for the implementation of transportation improvements to enhance the safety, mobility and quality of life for all citizens of Richmond. The automobile continues to be the primary means for commuting, but a multi-modal transportation system will reduce this dependence.

Recommended transportation improvements are based on current and projected conditions and are designed to meet the transportation challenges of the new century. Recommendations are made for four specific transportation elements:

- Public Transportation
- Bikeway and Pedestrian Travel
- the Roadway System; and
- Parking

In each of these sections, detailed recommendations are provided to create a multi-modal transportation system that accommodates future transportation needs and provides the safest, most efficient access to regional employment, residential neighborhoods and commercial services.

Relationship Between Transportation and Economic Development, Land Use and Quality of Life

Safe, efficient, and convenient transportation is an essential component of the quality of life in any community. Quality urban living requires the ability of residents and consumers to easily access jobs and retail centers. Likewise, access to local, interstate, and international transportation networks are vital considerations for businesses seeking to expand or locate. For Richmond, access to the Interstate highway system, the airport, rail lines, and the Port of Richmond all play a significant part in business location decisions.

Businesses also require an accessible work force, frequently creating a necessity for public transportation. An efficient, well-maintained transit system supports not only businesses and residents, but visitors as well. An effective public transportation system reduces roadway congestion, eases the demand for parking, particularly downtown, and enhances air quality. As the City continues in its role as the predominant urban center of the region, creative enhancements to the existing public transportation system are essential to improve the quality of life both within the City and throughout the region.

The transportation network can also by used as a catalyst to shape and manage urban growth. Fixed transportation systems like highways and light rail lines can appropriately generate higher intensity and higher value development. Development along light rail lines in particular can be of higher density to increase access and usage of those systems. Appropriately, the land use plan maps for Richmond identify industrial uses in proximity to both rail lines and the James River. Similarly, major transportation arteries can also be incompatible with residential uses, particularly due to the noise they generate. This issue is particularly noticeable in urban areas where interstate highways and major arteries were constructed through existing neighborhoods or where their usage has increased substantially. To reduce this problem, there are several areas for which the land use plan recommends buffering or other forms of mitigation.

Transportation Goals

The following four goals form the basis for all subsequent transportation policies and strategies, and are intended to support traditional roadway-based and multi-modal transportation systems.

- The City of Richmond will be served by a multi-modal regional transportation system connecting residents with areas of employment, commerce and education.
- The City of Richmond will have a roadway system that provides access to all areas of the City. The City supports the efficient movement of private vehicles and public transit, without adversely impacting City neighborhoods.
- The City of Richmond will support bicycle travel with a safe and effective system of designated bikeways. The City will be a community where pedestrian and bicycle movements are protected as an integral part of the transportation system.
- The City will have access to national and international markets and metropolitan areas through a comprehensive system of efficient and modern transportation.

General Transportation Policies and Strategies

The long-range transportation policies and strategies for the City of Richmond are designed to enable the City to: function as an integral element of a safe and efficient regional multi-modal public transportation network; maintain a safe, effective and comprehensive roadway network; and develop appropriate alternative modes of transportation.

- Develop a regional multi-modal transportation system consisting of commuter and light rail, local and express buses, rapid busways, ridesharing, improved taxi service, and bikeways to support the safe, efficient movement of people and goods, while respecting the quality of life in the City's residential neighborhoods.
- Encourage regional participation in achieving greater public transit ridership.
- Promote ridesharing, bicycle commuting and pedestrian walkways as alternatives to the single passenger automobile.
- Enhance the existing roadway network to address current and projected transportation demands.
- Promote the development of high-speed passenger rail service connecting Richmond to other areas in Virginia and along the East Coast.

Public Transportation

Existing Conditions

Public transportation within, and to and from, the City is provided by a combination of bus, taxi, ridesharing, rail, and air service. Current conditions, issues, and recommended improvements for each of the six modes are described below.

- **Intra-City Bus Service**
  The principal public transit carrier in the Richmond metropolitan area is the Greater Richmond Transit Company (GRTC), a non-profit public service corporation. Operating since 1973, GRTC runs approximately 185 buses on 56 routes daily.

  In addition to GRTC**,** there are approximately a dozen private transportation companies in the Richmond area that provide bus service from commuter and employee transportation to conventions and special events. Virginia Commonwealth University also provides shuttle service between its Academic and Medical campuses.
- **Intercity Bus Service**
  Greyhound and Carolina Trailways provide intercity bus service to all major markets throughout the southeast. Greyhound's Richmond terminal is a major hub for the company's East Coast operations, serving approximately 800,000 passengers per year. GRTC and several taxi companies provide connections to the Greyhound station. Relocation of some or all of the functions of the bus station to the Main Street Station multimodal center is expected in 2005.
- **Ridesharing**
  Ridefinders, the region's public non-profit ridesharing organization, promotes carpooling as an alternative to single passenger automobile travel. A subsidiary of GRTC, Ridefingers encourages and assists in the formation of car and vanpools, and fosters telecommuting programs through a network of employee transportation coordinators.

- **Taxis**
  Taxicab service is an increasingly important element of the transportation system as tourism and business travel make up a greater portion of the City's economy. Taxi service is provided by private companies whose operations are regulated independently by each of the metropolitan area jurisdictions. Coordination among jurisdictions and training for taxi drivers is provided by the Capital Region Taxicab Advisory Board, a subsidiary of GRTC.

- **Rail Service**
  Passenger rail service is provided by AMTRAK, at the station on Staples Mill Road in Henrico County. Once completed, the Main Street Station in Shockoe Bottom will serve as an additional arrival and departure point for rail passengers. Freight service is primarily a "pass-through" function with Richmond served by both CSX and Norfolk Southern lines.

- **Air Service**
  The City is served by Richmond International Airport, located in eastern Henrico County, seven miles east of the City. It is owned and operated by the Capital Region Airport Commission, a special authority in the Commonwealth of Virginia. Primary access to the airport is Airport Drive, which provides convenient access to I-95, I-295, and I-64. In addition to commercial passenger and cargo operations, the airport accommodates over 100 general aviation aircraft based at the airport and has significant aviation operations for both the Virginia Air National Guard and Virginia Army National Guard. On average, the airport accommodates close to 600 general aviation, commercial, air taxi and military flights a day.

Public Transportation Issues

- **Ridership**
  Over the past 15 years, ridership on Greater Richmond Transit Company buses has declined significantly. Between 1991 and 1995, the number of individuals riding GRTC buses dropped over 36%. Factors that have led to declines in ridership include:
  - Limited funding to implement system improvements and increase service area.
  - Movement of large-scale retail establishments away from Downtown.
  - The lack of service to suburban employment and residential areas.
  - The continued out-migration of jobs, retail centers and residents to the region's suburban counties.
  - Fare increases in the early 1990's.
  - Reductions in weekday service.
  - Long waiting periods for transfers; and
  - Widespread availability of Downtown parking.

- **Route Coverage**
  Improvements in route coverage are needed to ensure equitable distribution of GRTC services. Key residential and commercial sections of south, east, and north Richmond are underserved by

current GRTC routing patterns. Given GRTC's role as a regional transit company, the wider distribution of routes in Chesterfield, Henrico, and Hanover Counties, particularly along major transportation and employment corridors, is needed.

- **Rider Amenities and Facilities**
  Providing a comfortable and quality environment for the transit rider is an important factor in capturing and retaining all transit patrons, particularly those with other transportation options. Current deficiencies include: limited shelters or benches at bus stops, lack of route information in transit areas, an overall negative impression of transit facilities particularly at transfer points downtown.
- **Intercity Passenger Rail Service**
  Several issues related to the existing regional rail system are important to consider.
  - ❑ There is currently no passenger rail service within the City of Richmond. The closest AMTRAK rail passenger facility is located seven miles from Downtown at the Greendale Station on Staples Mill Road in Henrico County. The restoration of Main Street Station will return passenger rail service to downtown Richmond in 2002.
  - ❑ The City benefits from an extensive fixed rail system with significant carrying capacity. The current rail system can accommodate more traffic, and could serve as the foundation for additional rail options such as commuter rail and high-speed rail. However, rail lines established to carry freight traffic will need to be upgraded in order to facilitate passenger rail service. Grade crossings along the rail corridor will need to be improved to allow for additional train traffic and higher train speeds.

- **Airport Access**
  No public transportation to the airport is currently available except for taxis.

Public Transportation Policies and Strategies

- **Regional Bus Service**
  Establish a dedicated and reliable source of funding for the Greater Richmond Transit Company (GRTC) or any form of regional public transportation to expand. Create a Transportation District Commission with taxing authority as a mechanism to accomplish this strategy. Such a Commission should be comprised of representatives from the surrounding counties and the City.
- **Main Street Station**
  Return passenger rail service and inter-city bus connections to downtown Richmond through the renovation of Main Street Station.
- **High Speed Rail**
  Establish a high speed inter-city passenger rail service to Downtown Richmond as part of Amtrak's northeast corridor service. Such service should include connections to Washington, D.C. and points north, Newport News to the east, Charlotte to the south, and Lynchburg and Bristol to the west.

- **Light Rail**
  Establish a light rail transit system connecting key stops within the City and metropolitan area along major transportation corridors. A well-designed light rail system can be a positive element to ensure the City's position as a vital economic core of the metropolitan area.

  A light rail system for Richmond should operate at-grade within existing street rights-of-way. Elements of a future light rail system should include:

  - a circulator route within Downtown, including Main Street Station, connecting the Convention Center with Shockoe Slip, Shockoe Bottom and the Riverfront as generally described in the Richmond Downtown Plan;
  - a route along Broad Street – from Main Street Station west;
  - a connection from Main Street Station and Downtown to the proposed Town Center and Midlothian Turnpike Corridor; and
  - along Jefferson Davis Highway into Chesterfield County.

  Although light rail transit is the recommended means of providing transit service in the corridors described above, cost and right-of-way issues may preclude immediate implementation. Therefore, effort should be made to protect potential future transit rights-of-way. A range of bus systems on existing rights-of-way should be used in the interim. Consideration should be given to providing dedicated lanes for such vehicles.

- **Commuter Rail**
  Create a system of commuter rail lines along existing railways to connect Main Street Station with the following destinations:

  - Richmond International Airport,
  - Bon Air/Midlothian/Brandermill,
  - Glen Allen/Ashland,
  - Strawberry Hill/Richmond International Raceway, and
  - Petersburg and Chester.

- **Access to Richmond International Airport**
  Work with Henrico County and transportation providers to implement additional public transit to the Richmond International Airport to include additional bus service, and regional commuter rail transit from Main Street Station.

Recommended Public Transportation Priority Improvements
Several of the recommended public transportation improvements are significant enough that immediate and continuous action should be taken towards their implementation. These priority projects are as follows:

- **Regional Bus Service**
  The following improvements are essential to increase transit ridership, and enhance the efficiency and attractiveness of a regional transit system.

- Develop a Transit Plaza on East Grace Street between 7th and 8th Streets with streetscape improvements, transit information, pedestrian amenities and bus shelters.
- Construct bus shelters at all major bus stops, including the renovated Main Street Station. Each shelter and bus stop should be identified by large route signs, with information about services, routes, and costs.
- Expand bus service to the proposed Town Center area, with additional stops along Midlothian Turnpike.

- **Relocate the GRTC bus yard and maintenance facility.** The current site is identified on the Land Use Plan map as a Housing Opportunity Area.
- **Express Bus Service**
  Three of the City's Interstate corridors should be provided with express bus routes originating from Downtown and linking City commuters and shoppers to park-and-ride facilities at terminal points in the outlying counties. The routes should include Interstates 95, 64, and 195 and the Powhite Parkway.
- **Downtown Light Rail Circulator**
  The Downtown Light Rail Circulator is necessary to enable residents, workers, and visitors to move easily more about Downtown, particularly gives the increasing demand on parking resources.
- **Light Rail Transit**
  The light rail transit concept is intended to be the preferred method of public transit connecting the major nodes of activity in the City and ultimately throughout the metropolitan area. Although actual construction of such a system is not anticipated in the near future, the acquisition and preservation of rights of way should remain a priority, particularly in those cases where planned light rail transit routes coincide with planned roadway improvement projects.

Bicycle and Pedestrian Travel

Existing Conditions

Currently, much of the roadway system in the City is conducive to neither bicycle nor pedestrian travel. Many of the City's major transportation corridors lack streetscape elements to encourage pedestrian use. Route 10, portions of Jahnke Road, and the Lee Bridge have designated bicycle lanes, and both bicyclists and motorists can safely use most low-speed streets in residential areas. There are no other locally designated, signed bicycle routes within the City. There are a number of paths and roadways within City parks that are utilized quite frequently for recreational bicycle use.

Bicycle and Pedestrian Travel Issues

Within the City, significant bicycle and pedestrian travel issues include:

- A lack of an organized network of commuter and recreational bikeways;

- A lack of bicycle and pedestrian access to Belle Island from Riverside Drive;
- A lack of park-and-lock bicycle facilities Downtown; and
- Currently, a lack of requirements for new roadway projects to emphasize bicycle and pedestrian travel, resulting in development that can be detrimental to an urban pedestrian environment.

Bicycle and Pedestrian Policies and Strategies
In order to develop a successful multi-modal transportation system, the specific needs of bicyclists and pedestrians must be accommodated. Routing systems for both cycling and walking should be just as important to the City's transportation network as are the roadways that support motorized travel. The following policies and strategies underscore the importance of incorporating convenient, well-designed bike and pedestrian routes into future transportation network improvements:

- Construct new roadway segments that include bikeways and sidewalks.
- Coordinate with adjacent jurisdictions to create a unified regional bikeway network. The commuter bike system should provide connections to all proposed commuter rail and light rail stations.
- Develop a comprehensive bike routing system that includes plans for the long-term maintenance of bicycle route designators (signage, bicycle lane street stripping, etc.).
- Incorporate bike lockers into the design of any new public facilities.
- Give priority to all proposed projects using current ADA guidelines in order to provide safe pedestrian access to schools, hospitals, parks, and transit stations.
- Ensure that all transportation projects should have adequate provisions to address the needs of the pedestrian in a safe and efficient manner.
- Create pedestrian oriented environments with proper land use planning.
- Maintain the City's infrastructure for pedestrian safety.
- Upgrade inadequate pedestrian facilities around schools, hospitals, parks, and transit stations.

Recommended Bikeway System
The bikeway system depicted on the Transportation and Roadway Improvements map is intended to provide an efficient, comprehensive network to safely accommodate bicycle travel for commuting and recreational cyclists alike. The proposed bikeway system is intended to provide access to Downtown and other employment centers, to commercial and retail service centers, and to all major public recreational facilities and parks.

While it is recognized that all City roadways are available for bicycle use, those roads identified on the Transportation and Roadway Improvements map have been chosen as the most efficient, safe and appropriate locations for shared motor vehicle/bicycle traffic. These routes are appropriate for designation either through signage or delineated bike lanes, and should also be maintained in a physical condition conducive to safe bicycle travel.

Transatlantic and Intra-coastal Shipping

Intra-coastal and trans-Atlantic shipping is conducted through the Port of Richmond Terminal, an inland deepwater terminal located three miles south of Downtown, adjacent to I-95 on the west bank of the James River. The 120-acre facility provides a full range of stevedore services and logistical assistance to the port's customers.

The Port handles over 500,000 tons annually of container, breakbulk, bulk, neo-bulk and livestock cargo. The Port provides service worldwide. Major cargoes at the port include tobacco, tobacco products, newsprint, waste paper, project cargo, chemicals, consumer goods, phosphates and pharmaceuticals.

Approval of The 1992 Master Development Plan for the Port marked the beginning of major infrastructure improvements to maximize container handling and storage operations, improve gate operations and traffic flow at the terminal, and extend the wharf to the north.

Future improvements to the Port include:

- Additional cargo lay down area and construction of future warehouse space;
- An extension of the wharf to the south;
- Expansion of the Richmond Deepwater Terminal Turning Basin, in partnership with the Army Corps of Engineers; and
- Development of a regional rail intermodal freight center to serve domestic shippers, area industries, distribution activities, transportation companies and forwarders, as well as intermodal services for shippers through the Port of Richmond and Richmond International Airport.

The Roadway System

The City depends upon a highly developed roadway system that has been in place for decades and is generally adequate to meet the needs and expectations of businesses, residents, and visitors within the metropolitan area.

Existing Conditions
Three major interstate highways run through the City: I-95, I-64 and I-195. They have a major impact on traffic patterns and play an essential role in carrying daily commuter traffic through and around the City. Much of this highway system was located through developed areas of the City resulting in the displacement and disruption of existing neighborhoods. Much of the City's economic vitality however is directly attributable to the interstate system.

The pattern of interstate highways and local arterial streets gives commuters access to all parts of the City and the region. While some of the City's interstate access points and primary corridors are heavily congested for brief duration on a daily basis, commuter congestion in Richmond is very modest relative to other East Coast cities.

North of the James River, many residential neighborhoods are characterized by a grid pattern of streets as are the older areas of South Richmond. Residential neighborhoods south of the river that were annexed from Chesterfield County have a more rural or suburban pattern.

There are six highway bridges over the James River connecting portions of the City north and south of the river. An additional two bridges connect south Richmond to western Henrico County.

- **Relationship to Regional Roadway System**
  The interstate highway system through the City is part of a much larger regional and national highway system. I-95, the main arterial highway for the eastern U.S., connects Maine to Florida, and intersects with Interstate-64 within the City limits. There are

Roadway System Characteristics

There are five categories of roadways in the City: interstates/ freeways, principal arterial roadways, minor arterial streets, collector streets, and local streets.

Interstates/Freeways
- Grade separated intersections and limited access roadways designed to carry major through and commuter traffic.
- Constructed with four to six moving lanes with a median.

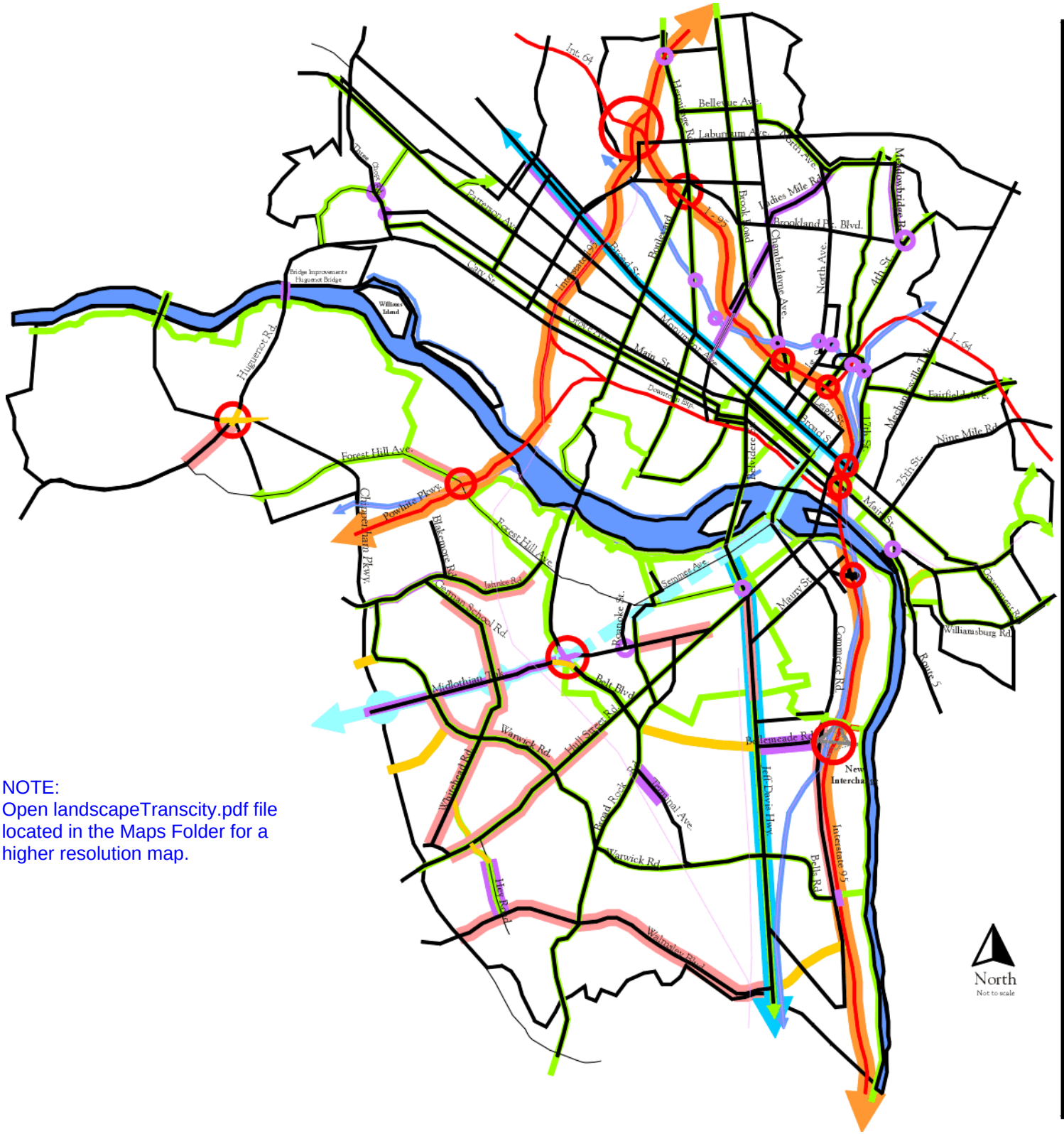
Principal Arterial Streets
- Major routes for carrying high traffic volumes originating in areas not conveniently served by interstates or freeways.
- Generally, four to six moving lanes, sometimes with a median, but not limited access.
- Parking generally prohibited at peak times with signalization and other controls and transit provisions being major design features.
- Follow neighborhood boundaries where possible and provide direct services.

Minor Arterial Streets
- Routes designed to support and supplement principal arterial roadways. Generally two to four moving lanes, sometimes with a median.
- Lower design standards than principal arterial roadways.

Collector Streets
- Routes designed to collect traffic from local streets and channel it to arterial streets with two moving lanes.
- Lower design standards than minor arterial roadways but higher than local streets. Desirably, residential properties front on local streets rather than directly on collectors.

Local Streets
- Provide access to adjacent properties.
- Serve as an element of neighborhood street grid design.

Transportation and Roadway Improvements



NOTE:
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- Bike Routes
- New Roadway Segments
- Operating Improvements
- Additional Travel Lanes
- Express Bus Service
- Light Rail Transit
- Light Rail Conceptual Routes
- Regional Commuter Rail/ High Speed Rail
- Interchange Improvements

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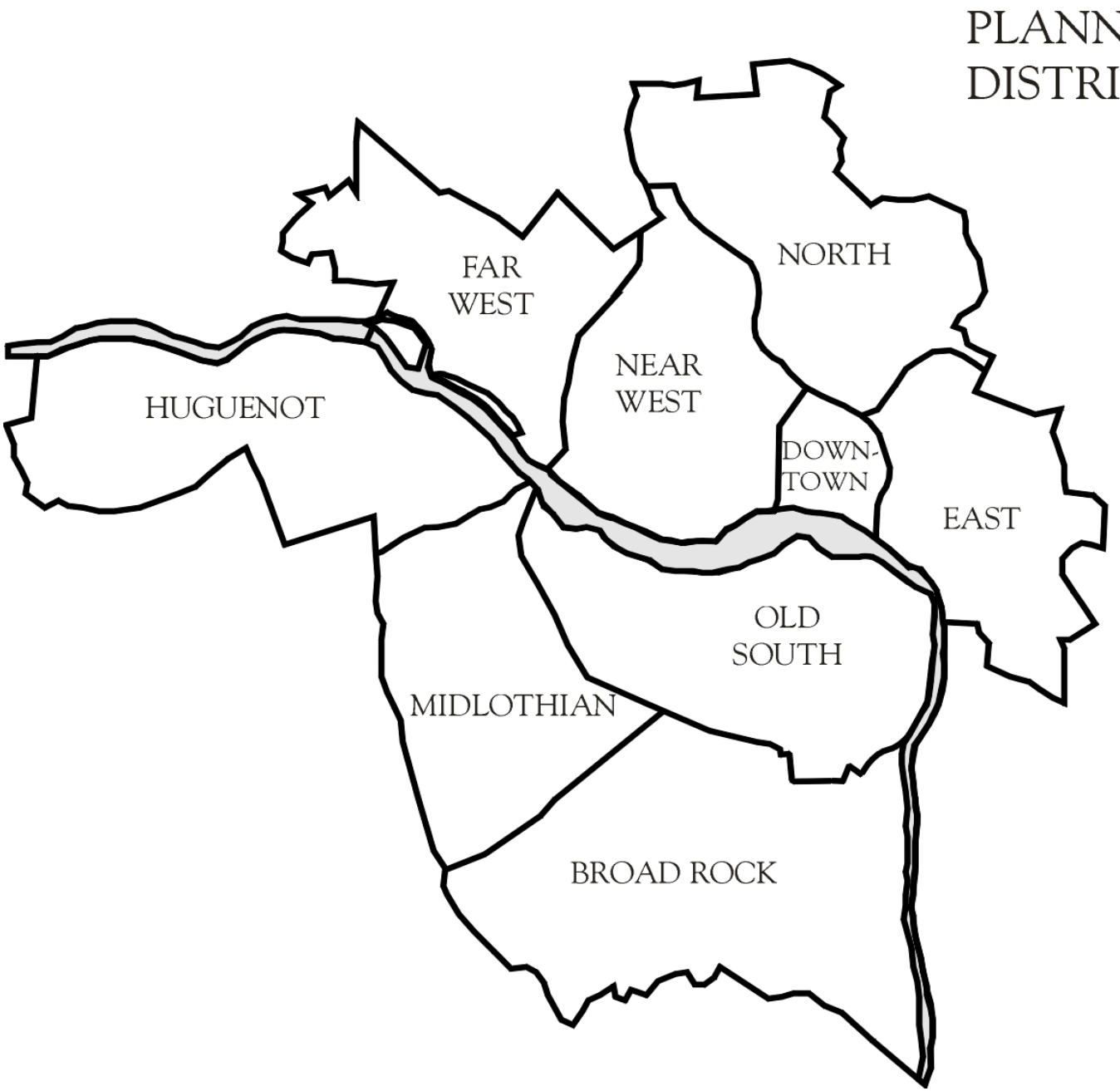
PLANNING DISTRICTS
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DOWN-TOWN
EAST
OLD SOUTH
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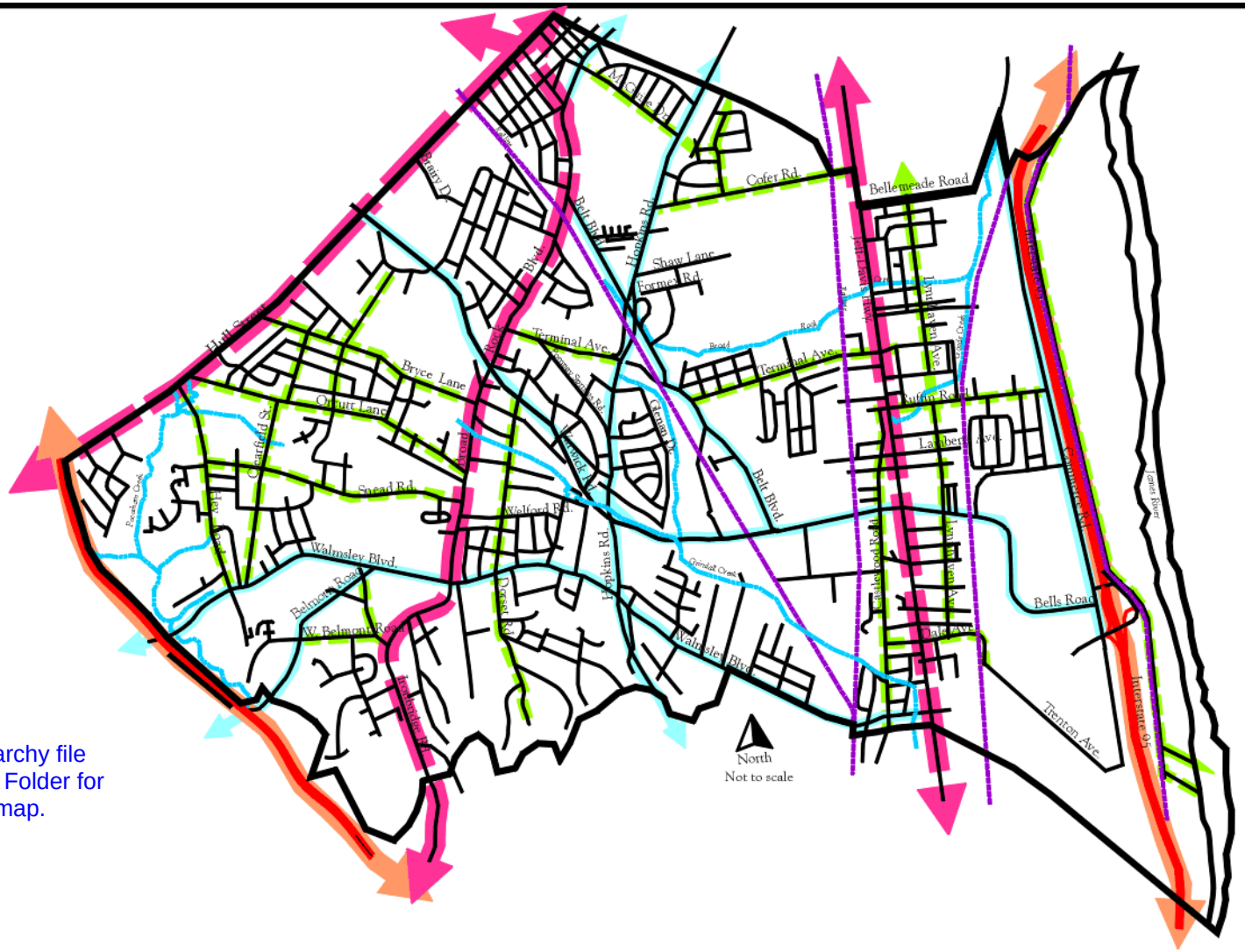

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- Interstate/Freeway
- Principal Arterial Roadway
- Minor Arterial Roadway
- Collector Street
- Local Street

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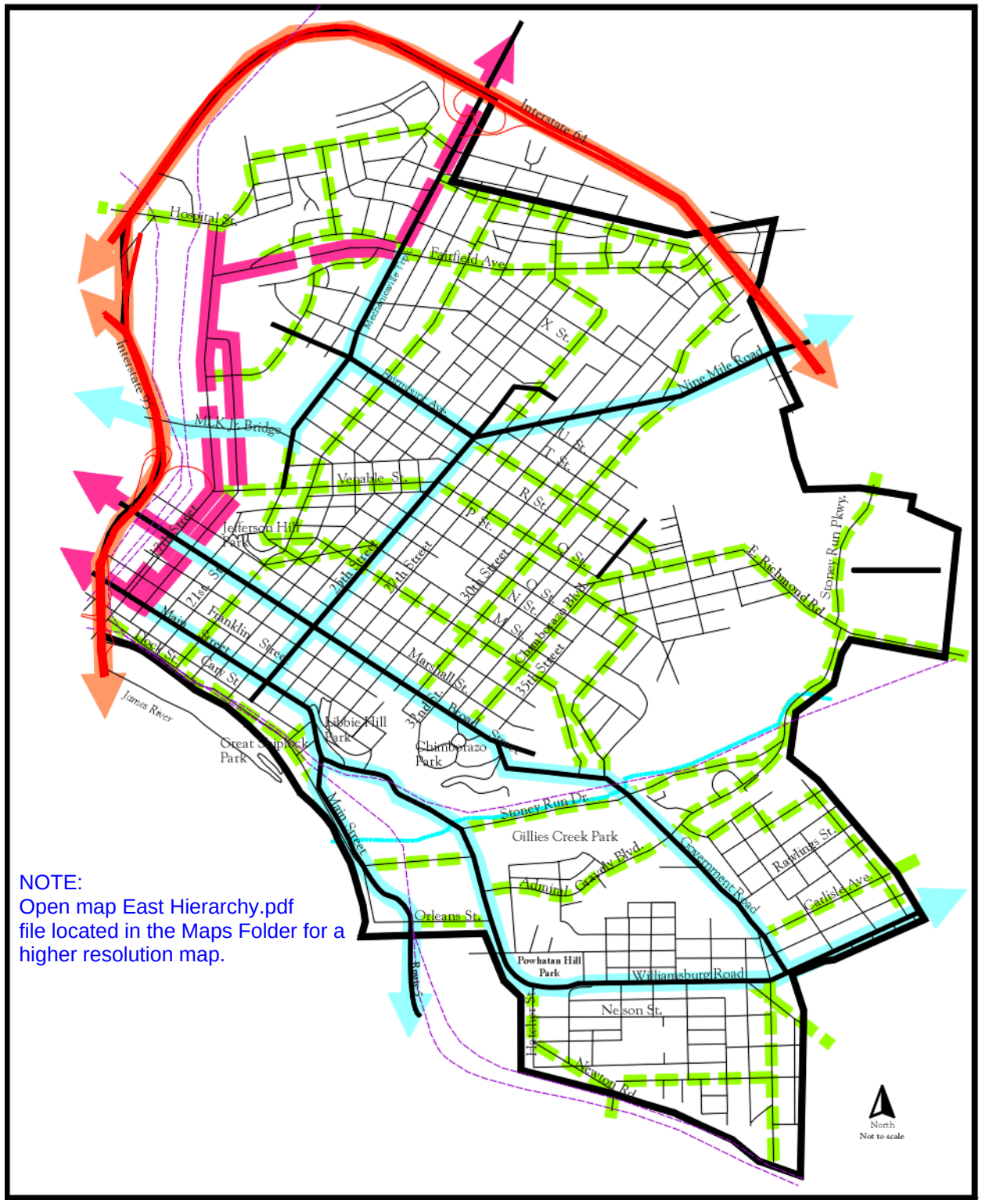
Broad Rock Planning District

Street Hierarchy

East Planning District

Street Hierarchy



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Interstate/Freeway

Principal Arterial Roadway

Minor Arterial Roadway

Collector Street

Local Street

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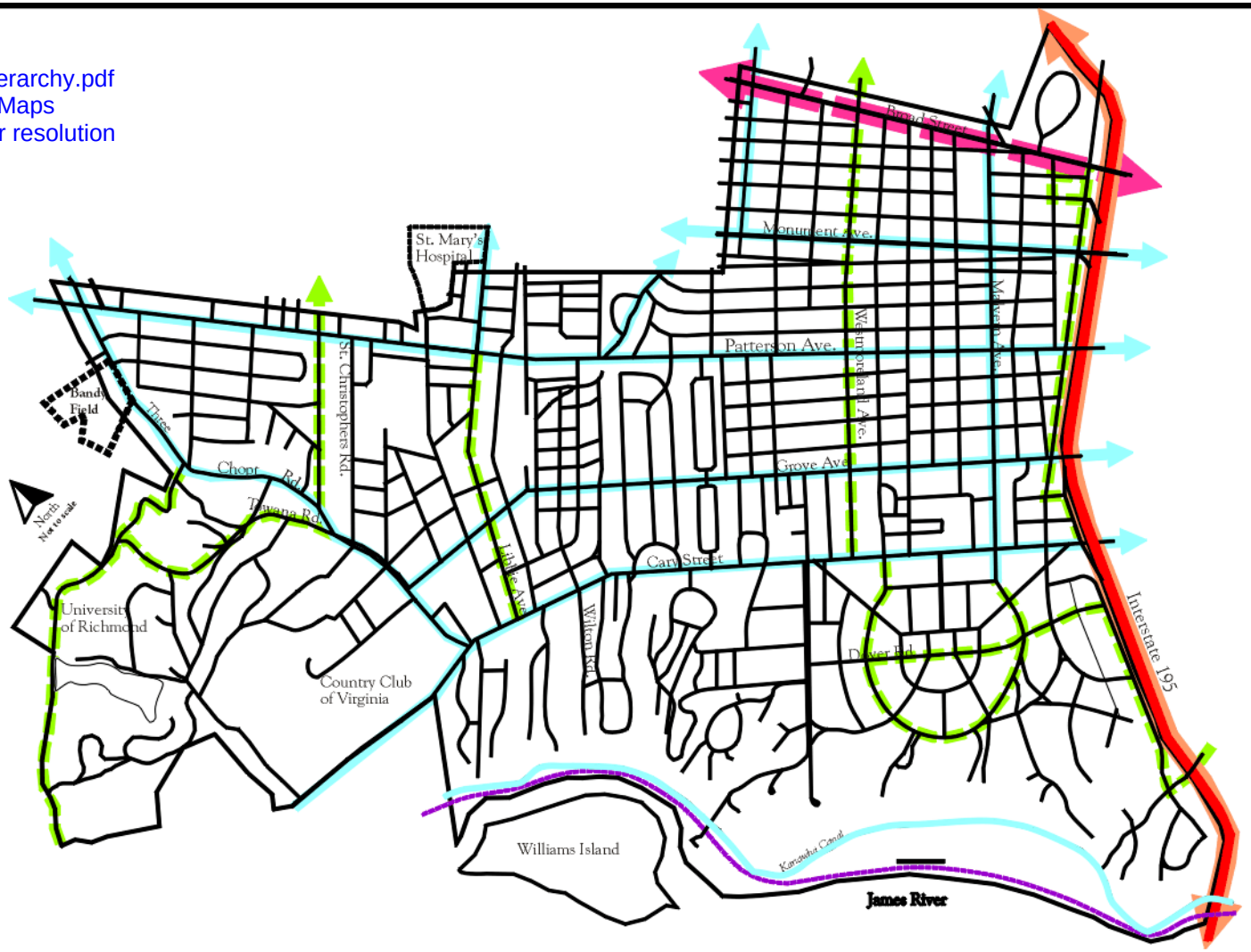

Interstate/Freeway

Principal Arterial Roadway

Minor Arterial Roadway

Collector Street

Local Street

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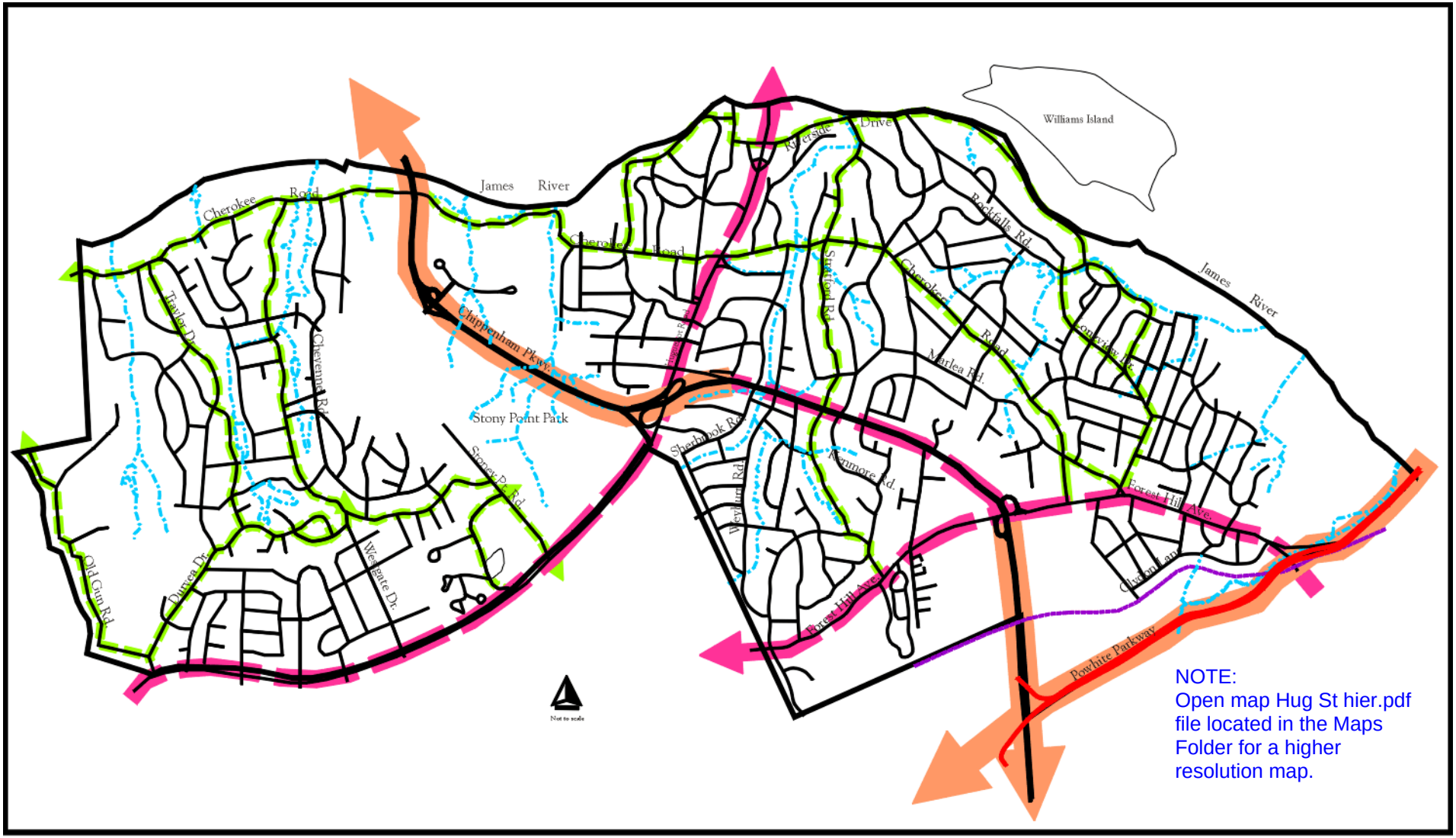
Far West Planning District

Street Hierarchy



Interstate/Freeway

Principal Arterial Roadway

Minor Arterial Roadway

Collector Street

Local Street

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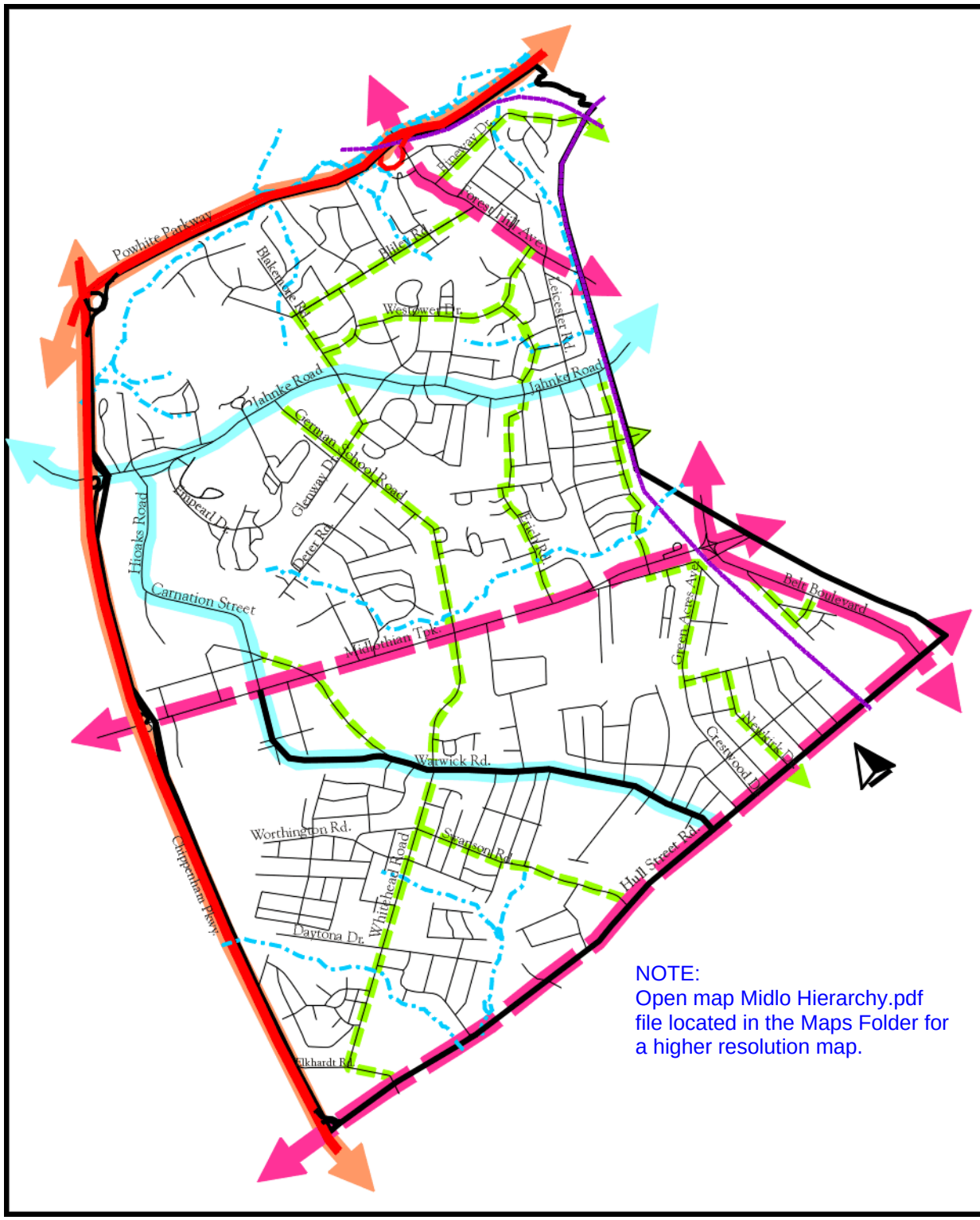
Huguenot Planning District

Street Hierarchy

Midlothian Planning District

Street Hierarchy



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- Interstate/Freeway
- Principal Arterial Roadway
- Minor Arterial Roadway
- Collector Street
- Local Street

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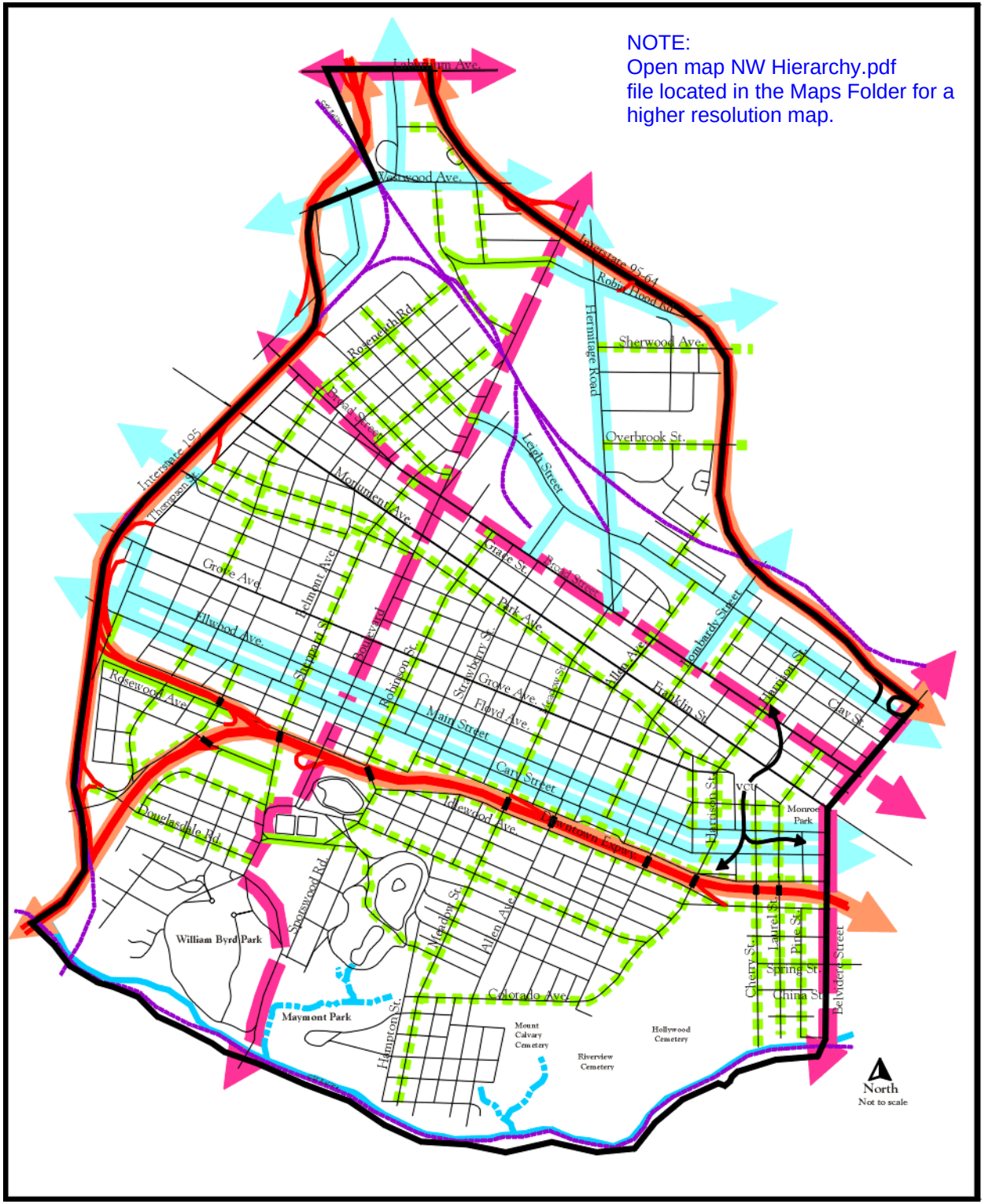

Near West Planning District

Street Hierarchy

- Interstate/Freeway
- Principal Arterial Roadway
- Minor Arterial Roadway
- Collector Street
- Local Street

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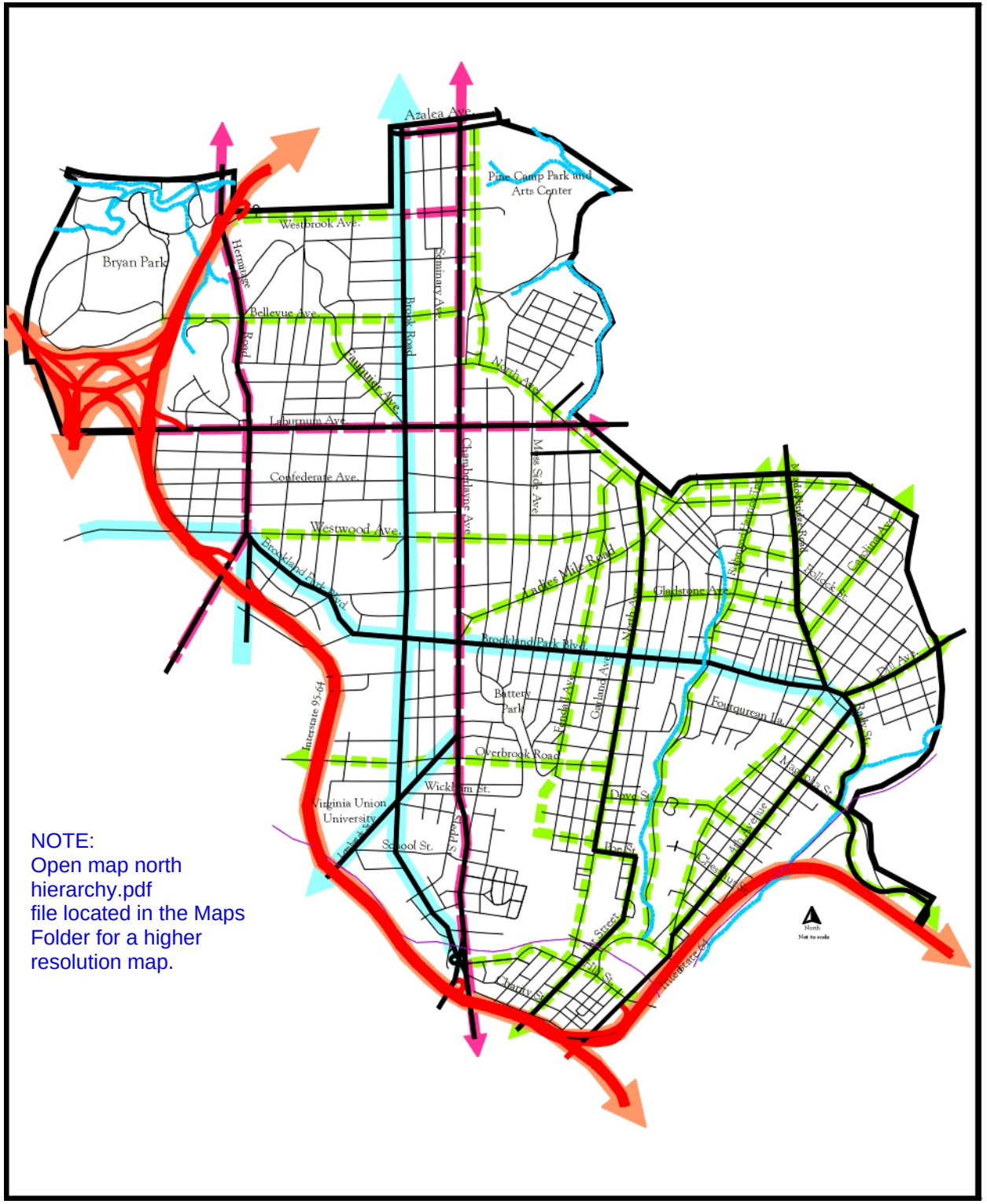
North Planning District

Street Hierarchy



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- Interstate/Freeway
- Principal Arterial Roadway
- Minor Arterial Roadway
- Collector Street
- Local Street

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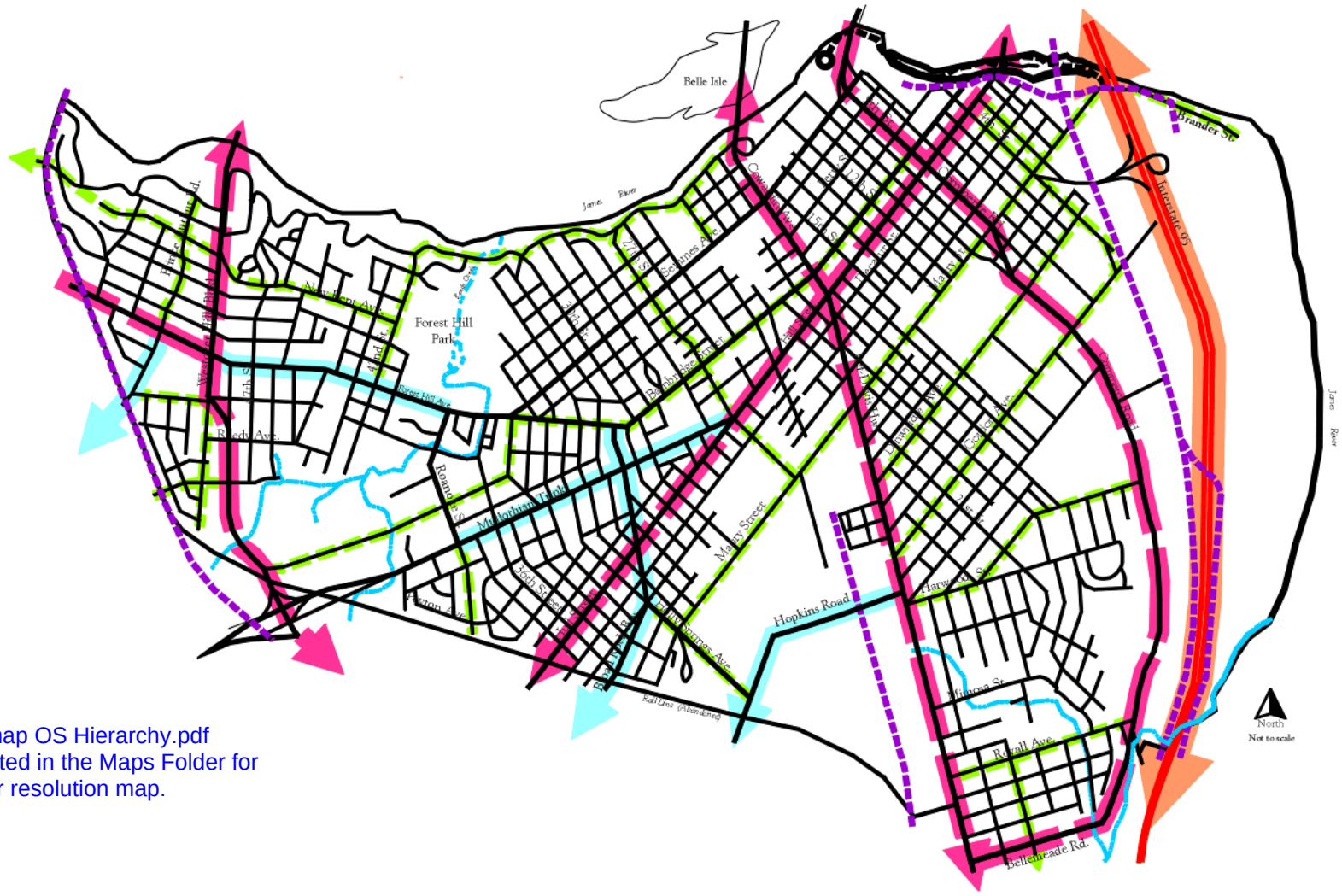

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- Interstate/Freeway
- Principal Arterial Roadway
- Minor Arterial Roadway
- Collector Street
- Local Street

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Old South Planning District

Street Hierarchy

several state highways that connect Richmond to other major mid-Atlantic and Southeastern U.S. localities.

- **Street Hierarchy**
  The street hierarchy shown on the maps that follow reflects the existing physical structure of the City roadway network, as well as the intended function of that network. Designation of City streets in a particular category reflects the intended traffic loads and use patterns of those streets. Many City streets serve a dual function as arterials carrying a significant amount of traffic as well as providing direct access to adjacent residential properties. While it is recognized that such streets will serve a large amount of traffic, in such situations it may also be appropriate to limit physical improvements or to restrict certain types of traffic. Generally it is not appropriate to employ measures that impede the flow of traffic on principal arterial streets.

Roadway Issues
The following issues have been identified in assessing the current and future needs of the City's roadway system.

- **Interstate Highway System**
  Many major interstate access points and interchanges in the City become congested at times and inadequate to meet current and future projected traffic volumes. In the case of Interstate-95, most have not been upgraded since the initial construction of the Richmond–Petersburg Turnpike in the 1950's. Improvements to interstate access points and interchanges are critical to increased travel efficiency and continued economic growth. Additional interstate access in south Richmond is also necessary to allow connections to growth corridors and centers along Belt Boulevard and Midlothian Turnpike.

  The Virginia Department of Transportation's Six-Year Improvement Program targets ten I-95 bridges within the City that are in need of major rehabilitation.

- **Impacts on Residential Neighborhoods**
  In many residential neighborhoods, local streets also function as collector streets, channeling significant amounts of traffic particularly during peak periods. The associated volumes of traffic can cause a negative impact on the quality of life and the desirability of these neighborhoods as places to live.

  The existing grid system in many of the City's older neighborhoods provides a variety of travel opportunities that evenly distributes traffic. This system also provides the opportunity for cut-through commuter traffic. Alteration of this system through selective street closings or other techniques has the potential to seriously impact other streets and neighborhoods.

  Traditional approaches to accommodating traffic volume and congestion through providing more capacity are rarely appropriate strategies for use within established neighborhoods.

- **Deficient Roadway Segments**
  There are a number of roadway segments throughout the City

where motorists experience unacceptable operating conditions. Deficiencies that have been identified include:

- an insufficient number of travel lanes.
- the need for turning lanes and/or limited times for left-turn movement;
- lack of signal coordination;
- narrow lane width, with ditches and other roadside features close to travel lanes.
- lack of pedestrian and bike facilities; and
- federal and state roads in the City that are operating over capacity.

- **Connection Needs**
  Three new roadway connections are needed in the Broad Rock District. They have been recommended to fill critical gaps in the current system. The recommended improvements call for the construction of:

  - a new interchange at the intersection of Bellemeade Road and I-95;
  - a new connecting road between Belt Boulevard and the above-referenced interstate interchange at Bellemeade Road; and
  - an extension of Walmsley Boulevard from Jefferson Davis Highway to Commerce Road.

- **Safety, Access and Efficiency**
  Richmond's roadway network must be safe and accessible in order to efficiently move people, goods and services throughout the City. Comprehensive strategies to address these issues should be developed for the following problems:

  - Aggressive and reckless driving,
  - High accident rates throughout the City,
  - Rush hour congestion at key interstate access points,
  - Rush hour congestion along key commuter corridors,
  - Inefficient traffic routing,
  - Truck traffic along residential streets, and

  - The need for grade separations at main line rail crossings to promote safety and accommodate higher speed trains.

- **At-Grade Rail Crossings**
  Within the City limits there are 70 locations where railroads cross roadways at-grade and motor traffic must stop for trains. Approximately 28 of the 70 crossings had higher than expected accident rates.

Roadway Policies and Strategies
The policies and strategies that follow are designed to address the City's long term roadway needs.

- **Key Roadway System Improvements**
  Make key roadway system improvements while protecting and enhancing neighborhoods. With a large number of jobs located Downtown, commuter traffic in and out of Downtown creates considerable congestion during the work week. Notwithstanding

the need to alleviate these traffic pressures, roadway improvements should not come at the expense of neighborhood stability. The widening of minor arterial roadways or collector streets would, in most cases, cause irreparable harm to well-established residential areas. Road widenings should not be the preferred approach. Rather, through-traffic should be directed away from residential neighborhoods and onto commercial corridors or the interstate highway system.

- **Pedestrian Movements**
  Protect pedestrian movements within Downtown. Pedestrian movements should be emphasized. By improving key pedestrian facilities (crosswalks, sidewalks, signals) pedestrian safety and access to jobs and retail and cultural activities is enhanced.
- **Street Conversions**
  Convert key one-way streets to two-way streets. Recent concerns about the one-way street system, particularly in the Downtown, have prompted a re-examination of this method of traffic routing. Too often, the present one-way street system directs traffic away from significant tourist destinations, such as the Civic Center area at 6th and Grace and the State Capitol complex. The Richmond Downtown Plan calls for converting key one-way streets into two-way traffic streets; this recommendation should apply to other important roadway corridors citywide as well.
- **Improve Safety, Access and Efficiency**
  Create a safe and accessible transportation network to help move people and goods throughout the City efficiently. By reducing aggressive and reckless driving through education, enforcement, and engineering, our residents and visitors will be safer. Sufficient resources should be allocated to maintain our public safety infrastructure.
- **Promote Economic Development**
  Provide transit opportunities and roadways that will connect people with jobs, goods and services in support of a strong, healthy local and regional economy.

- **Citywide Traffic Management Plan**
  Develop a citywide Traffic Management Plan. The intent of such a plan is to develop a comprehensive approach to addressing traffic management needs, particularly as they relate to the stability of residential neighborhoods. Traffic Demand Management and other operational strategies should be utilized to improve the efficiency of the City's roadway system without adversely impacting City neighborhoods. Such strategies include telecommuting, flexible working hours, car or van pooling, transit fare coupons, transit and ride sharing priority.
- **Other Roadway Policies**
  The following specific policies are recommended:
  - ❑ Undertake safety improvements in areas with high accident rates;
  - ❑ Improve the arterial street system to handle through and truck traffic thereby reducing such traffic in residential neighborhoods;

- Improve signage for parking and local destinations to support the movement of commuters, visitors, and residents;
- Improve access to the interstate by increasing the capacity and configurations of entrance and exit ramps to City streets;
- Incorporate design standards for street lighting, sidewalks and landscaping in order to complement adjacent residential neighborhoods and facilitate pedestrian use;
- Use streetscape improvements should be used as a means of retaining the pedestrian character of city streets as they cross interstate highways and traverse other overpasses; and
- Implement Traffic Demand Management strategies to improve the safety and efficiency of the roadway system.

Recommended Roadway Improvements

Several key components of the City's roadway network are substandard and in need of major improvements. While most of these problems are associated with congestion, there are also concerns with the safety of the network and the type of access the roadway system provides the City.

- **New Roadway Segments**

  Selected modifications and adaptations to the current roadway system are recommended to address the roadway needs of the City. Once implemented, the following new roadway projects will substantially improve efficiencies for the entire roadway network:

  - new interchange at Bellemeade Road and I-95;
  - roadway connector between Belt Boulevard and the new Bellemeade/I-95 interchange;
  - extension of Walmsley Boulevard from Jefferson Davis Highway to Commerce Road;
  - extension of Botetourt Street from Middlesex Street to Ownby Lane in the Hermitage Business Park;
  - extension of 15th Street between Main and Franklin Streets to enhance access to the Main Street Station;
  - "Loop" Road connector from Carnation Road to Boulder Parkway in Chesterfield County and from Warwick Road – to the area west of Chippenham Parkway;
  - roadway connector between Whitehead Road and Hull Street; and
  - a new roadway link between Main Street and Williamsburg Avenue in place of the substandard Main Street crossing over the Norfolk Southern rail line.

- **Additional Travel Lanes**

  The following road widening projects are intended to address excessive traffic demand along some of the City's most heavily traveled commuter routes:

  - Walmsley Boulevard from the Chesterfield County line to Jefferson Davis Highway: widen from 2 to 4 lanes.
  - Huguenot Road from Chippenham to Forest Hill Ave: widen from 4 to 6 lanes.
  - Jefferson Davis Hwy. from Chesterman to Decatur Street: widen from 4 to 6 lanes.
  - Hull Street from Elkhardt to Dixon: widen from 4 to 6 lanes.
  - Forest Hill Avenue from Powhite to Hathaway Road; widen from 4 to 5 lanes.

- Whitehead Road from Warwick to Elkhardt: widen from 2 to 4 lanes.
- German School Road between Warwick and Glenway: widen from 2 to 4 lanes.
- Jahnke Road from Blakemore Rd to Clarence Street: widen from 2 to 4 lanes.

- **Interchange Improvements**
  The City's interstate highway access points are heavily congested, particularly during peak hours, and were designed to meet the traffic needs and standards of previous decades. Specific improvements are recommended for the following key intersections:

  - A new interchange on I-95 at Bellemeade Road, to provide a connection to a new four-lane east-west controlled access road (along either power-line or railroad rights of way) to the proposed Town Center.
  - A reconfiguration of the Maury Street interchange of I-95, to facilitate more efficient and safe truck movements in and out of the area with emphasis on protecting the surrounding residential neighborhoods.
  - Improvement of the interchange of I-95 with Boulevard/ Hermitage Road, to support current and future traffic demands.
  - Improvement to the I-95 underpass at Bells Road to support truck movements.
  - Modification of the I-95/Franklin Street exit ramp, to support access to Main Street Station.
  - Modification of the I-95/Broad Street interchange, to support access to Main Street Station.
  - Reconfiguration of the interchange of Belvidere Street and I-95.
  - Improvements to East Broad Street, I-95 and 14th Street, to also provide additional travel lanes on Broad Street.
  - Improvement of I-95 at 7th Street/DuVal Street Interchange, to provide additional travel lanes, and improved turning movements.
  - Improvements to the I-95 and I-64 and I-195 "Bryan Park" Interchange, in accordance with the 1999 I-95/I-64/I-195 Feasibility Study.[1]

This last improvement is needed to accommodate changes in traffic patterns and volumes, which have changed significantly since the interchange was originally designed and constructed and should include a two-lane on-ramp to I-95 northbound from I-64 – I-95, and replacing the Hermitage Road off-ramp from I-95 northbound and the Hermitage Road on-ramp to I-95 southbound with an off-ramp to Dumbarton Road from I-95 northbound and an on-ramp from Dumbarton Road to I-95 southbound.

Additional interchange improvements are recommended at the following locations:

[1] The recommendations endorsed by this study were developed in accordance with the Bryan Park Interchange Advisory Committee, a multi-jurisdictional citizen group.

- Reconfiguration of the I-95 and I-64 east junction to address congestion during peak hours due to short merge areas and roadway deficiencies; and lack of shoulders on the bridge.
- Improvements to the intersection of Powhite Parkway and Forest Hill Avenue.
- Improvements to the operation of exit ramps leading from Chippenham Parkway to Huguenot Road; and
- Improvements to the operation of exit ramps leading from Chippenham Parkway to Forest Hill Avenue.

- **Roadway Operating Improvements**
  Operating improvements are modifications to the existing roadway, generally within the existing right-of-way and can include the addition of travel lanes, turn lanes, or modifying the operation of intersections. The following roadway operating improvements are recommended:

  - Improvements to the Huguenot Bridge exclusive of additional travel lanes on the bridge, and roads leading up to the bridge.
  - Reconfiguration of the roadway system near the Intermediate Terminal to connect Route 5 (Main Street) with Williamsburg Avenue; align Dock Street directly with Main Street; eliminate vehicular use at the Main Street bridge across the Norfolk/Southern Railroad; and provide for other opportunities for street closings in support of development opportunities.
  - Reconfiguration of the Midlothian Turnpike and Belt Boulevard intersection to accommodate the anticipated traffic flow increase resulting from development of the Town Center.
  - Reconstruction of US Route 1 (Jefferson Davis Highway) in south Richmond to control access to include a separate right-of-way for bicyclists, pedestrians, and potential light rail transit.
  - Reconstruction of Midlothian Turnpike to support transit operations and light-rail transit.
  - Upgrading of the Mayo Bridge.
  - Improvements to Lombardy Street from Broad Street to Brook Road to bring it up to grade and provide improved pedestrian crossings.

- **Improvements to the Boulevard median between Broad Street and Westwood Avenue.**

  - Installation of left turn lanes and median landscaping on West Broad Street between I-195 & Staples Mill Road.
  - Widening of Terminal Avenue between Broad Rock Boulevard and Hopkins Road.
  - Widening of Pompey Springs Road between Terminal Avenue and Hopkins Road.
  - Improvements to the Gillies Creek Bridge.
  - General circulation improvements within the Five Corners commercial area (Meadowbridge Road at Dill Avenue/Rady Street).

- **At-Grade Rail Crossings**
  In order to improve at-grade rail crossing safety, the following improvements are recommended:

- grade separation at Hermitage Road and Brook Road;
- crossing enhancements at Broad Rock, Besset Avenue, Jahnke Road, Walmsley and Terminal;
- crossing elimination at Dinneen Street;
- potential eliminations at Valley Road and St. James Street; and
- road realignments at Hospital Street.

For these improvements to occur a comprehensive mitigation plan must be developed to identify priorities and funding sources for implementation. Consideration should be given to improvements to at-grade crossings along lines accessing Main Street Station due to the projected increase in the number of trains resulting from its development.

Priority should be given to grade separation at Hermitage Road, due to the location of both ambulance and fire services in close proximity to the crossing, and the lack of alternative roadways in the immediate vicinity. The closing of crossings or other improvements should not impact any residence or business by preventing or prohibiting access, or creating a traffic pattern that would adversely affect a neighborhood without providing alternative access.

Parking

Existing Conditions

In spite of efforts to increase the use of public transit, the primary mode of transportation in the City will continue to be the private automobile for many years to come. Continued reliance on the automobile generates a demand for parking, which in turn has a substantial impact on land use.

Public parking is available on most public streets and in privately owned parking facilities. On-street parking is frequently restricted in commercial areas to encourage turnover and for business customers. Within the Central Business District and several adjacent areas, parking meters are used as a device to help facilitate this turnover and provide greater availability of on-street spaces. Parking restrictions are also used to accommodate peak hour traffic by making additional travel lanes available where needed. On-street parking limitations in some residential areas are applied where nearby uses generate substantial parking demand.

Areas where limited on-street parking frequently does not keep up with demand include much of Downtown, Shockoe Bottom, portions of the Fan, Carver, West of the Boulevard and Church Hill neighborhoods. In addition, many of the City's neighborhood commercial centers and immediately surrounding neighborhoods are negatively impacted by the high parking demand.

The overall approach to addressing parking demand and supply conflict has been to provide:

- On-street parking restrictions and meters, where appropriate, to generate turnover.
- Parking requirements embodied in the zoning ordinance for new developments.
- Privately owned (pay) parking lots or decks serving primarily Downtown.
- Publicly owned parking lots or structures in, primarily in Downtown.
- Reliance on the private market to provide parking for development as necessary.

Parking Issues

Providing and regulating vehicle parking in an urban environment within the context of a wide range of land uses is a significant challenge. Specific issues include:

- Conflicts between the desires of neighborhood businesses and adjacent neighborhoods.
- The need to provide opportunities for off-street parking for neighborhood commercial areas, particularly where such opportunities may not easily exist, and the need to finance such ventures.
- Differences between parking requirements imposed by the zoning ordinance, available parking opportunities, and parking requirements dictated by the market.
- The impact of parking on residential neighborhoods adjacent to commercial areas, particularly when it results in the demolition of existing structures or unsightly conditions.
- Increased demand for the city to participate in providing off-street parking for private users.

Relationship Between Parking and Economic Development and Transit

The ability to provide parking as an element of new development is often critical to the success of that development. In urban locations often where land is limited, the cost of structured or underground parking can substantially impact development costs. This frequently places urban development sites at a competitive disadvantage with sites in the suburbs.

The amount of parking needed to support development can vary significantly, and parking can be a substantial consumer of land. As a result there is an increasing need for the City to become involved in creative parking strategies to accommodate the complexities of urban development. Effective solutions should include increased support for, and expansion of, public transportation. Expanding transit service to offset increased parking demands for private automobiles should be a central feature in revitalizing Downtown Richmond.

Parking Policies and Strategies

- Prioritize the coordinated management of both on and off street public parking.
- Maintain on-street parking for short-term visitors in business areas, particularly Downtown. Off-street parking should be used for all-day parking.
- Encourage parking decals in residential neighborhoods to help ensure reasonable on-street parking for residents, especially residents who are adversely affected by the parking demands of nearby institutions.
- Pursue the construction of convenient, well-designed public parking structures; this should be done by the City, a public-private entity or special authority. Parking structures should include street frontage commercial uses and be sensitive to the scale and design of surrounding structures.
- Encourage shared use of existing parking decks, due to the high cost of constructing parking decks, which is nearly four times the cost of surface parking.
- Design and locate future off street parking to accommodate multiple uses, including combinations of daytime, nighttime and weekend use.